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야생콩 분획물의 Quinone reductase 유도활성

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야생콩은 isoflavone의 함량과 기타 성분의 큰 변이가 있고 병저항성과 환경에 대한 적응성이 뛰어나 육종의 좋은 소재가 될 수 있다 야생콩의 해독해소 유도활성을 조사하여 육종 소재로서의 가치를 알아보고자 한다

Quinone reductase(QR) 유도활성, 암 세포성장 억제능 총 페놀 함량 및 총 플라보노이드 함량을 측정하는 실험을 실시하였다. QR 실험 결과, 200 $\mu\text{g}/\text{mL}$ 농도에서 야생콩이 2.1배 유도하여 은하콩과 태광콩, 황금콩에 비해 유의하게 높은 QR 유도활성을 보여주었다. 총 플라보노이드 함량은 야생콩이 추출물 4 mg중 24.9 μg 로 은하콩(7.5 $\mu\text{g}/4$ mg of extract), 태광콩(4.6 $\mu\text{g}/4$ mg of extract) 및 황금콩(2.8 $\mu\text{g}/4$ mg of extract)보다 유의하게 높았으며 총 페놀 함량도 야생콩은추출물 4 mg당 107.2 μg 의 함량을 보여 은하콩(37.1 $\mu\text{g}/4$ mg of extract) 태광콩(12.2 $\mu\text{g}/4$ mg of extract) 및 황금콩(13.3 $\mu\text{g}/4$ mg of extract)보다 유의하게 높았다. 야생콩의 QR 유도활성 물질을 찾기 위해 헥산 에칠아세테이트 부탄올로 순차적으로 용매분획을 실시하였다. QR 유도활성은 에칠아세테이트 층에서 가장 높은 활성을 보여주었고 200 $\mu\text{g}/\text{mL}$ 농도에서 1.58배 유도 활성을 보여주었다

본 실험결과, 야생콩이 재배콩보다 유의하게 높은 QR 유도활성을 보여주었고 암 개시단계 차단을 통한 암예방 활성이 뛰어난 기능성 콩 육종의 소재로 활용할 가치가 높다고 사료된다

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Biotransformation of Rb1 and Red Ginseng extract by New *Lactobacillus*

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Previous investigation indicated that: the ginseng contained many different kinds of saponin which was the most valuable for people, but its composition was microscale, it was difficult to satisfy the demand of using simple extract methods. As a result, edible microorganism of the enzyme transformation method was a kind of conformable and highly performed transformation method which was fit for today. Our laboratory separates and purifies the particular new *lactobacillus A30001* from the South Korean pickles (kimchi). The culture solution reacted with Red Ginseng extract and Rb₁, respectively. The medium of bacteria was the liquid of lactobacillus MRS, the temperatures of growing and reacting between bacteria liquid and saponin were samely 37°C, there spective reacting time were 12 hour sand 48 hours. Thus we got different saponins, and through the method of TLC and HPLC, the analysis results showed that: enzyme respectively reacted with Rb₁ and Red Ginseng extract got the transformation production saponin, respectively the polarity position in TLC picture was a little bit higher than Rd; and the polarity position was the same as C-K's polarity position, the saponin which gotten from HPLC and other experimental results was not C-K. The constitution of its saponin was hoped to be further confirmed.

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